

P2000 Security Management System Third-Party IP Reader/Controller Integration

Description

The Johnson Controls® P2000 Security Management System (SMS) represents the latest technology in integrated security solutions. The P2000 software seamlessly integrates with the following IP-based, third-party readers/controllers:

- ASSA ABLOY® IP Wi-Fi and PoE Door Locks
- ASSA ABLOY Aperio® Wireless Door Locks and Readers (requires a controller)
- HID® Edge® and Edge EVO®
- Stanley® Omnilock® and Wi-Q™
- Schlage® AD-Series Door Locks (requires a controller)

These devices control a single, fully configured door and communicate directly with the host via TCP/IP. In addition, some controllers are Power Over Ethernet (PoE) compliant, enabling a single Ethernet cable to provide both power to the reader and communications with the P2000 host.

The P2000 software provides a single, central interface to configure and operate these controllers within the P2000 SMS. For a complete list and comparison of supported P2000 features available with the these controllers, see [Controller Feature Comparison on page 3](#).

ASSA ABLOY IP Wi-Fi and PoE Door Locks

The P2000 ASSA ABLOY integration requires a server, or virtual server, running the Door Service Router (DSR) software. A DSR server supports up to 1,024 readers. Only one DSR server per P2000 is recommended. For installations with multiple DSR servers or more than 1,024 locks are required in an installation, contact technical support for guidance. The P2000 SMS supports the following ASSA ABLOY SARGENT® and Corbin Russwin™ locks.

Note: ASSA ABLOY Wi-Fi locks are not subject to real-time updates. Synchronization between these locks and the P2000 server is determined by the **Connect Interval** parameter set in the P2000 system.

SARGENT Door Locks

- **Profile Series v.S1 (PoE)** – An American National Standards Institute (ANSI)/Builders Hardware Manufacturers Association (BHMA) Grade 1 lock that utilizes PoE technology, connects to the building's Ethernet network, and can make decisions locally. These locks are available in exit device, mortise, and cylindrical lock configurations.
- **Profile Series v.S2 (Wi-Fi)** – Intelligent, ANSI Grade 1 wireless lock that connects to the network via the building's Wi-Fi infrastructure. Installers can add the locks to locations where it would be difficult or cost-prohibitive to have a wired lock. This device provides complete access control features in online and offline operation.
- **Passport™ 1000 P1 (PoE)** – PoE lock that provides online access control using magnetic stripe and Personal Identification Number (PIN) code technologies for customized access to facilities. Using the facility's Ethernet network, the Passport 1000 P1 provides full online access control with standard network cabling.
- **Passport 1000 P2 (Wi-Fi)** – Intelligent, wireless ANSI/BHMA Grade 1 lock available in mortise, cylindrical, and exit device configurations. The lock transmits data via standard 802.11b/g Wi-Fi and requires no proprietary equipment. Each Passport 1000 P2 controls user access locally, while transmitting access events to the host system running PERSONA Campus software. The lock is available in a keypad and card access combination or as card access only.

Corbin Russwin™ Door Locks

- **Access 800™ WI1 (Wi-Fi, equivalent to the SARGENT v.S2)** – Intelligent wireless lockset solution that integrates all standard access control components, including ANSI/BHMA Grade 1 Corbin Russwin hardware, proximity reader, and door status monitoring, into a single device.
- **Access 700™ PWI1 (Wi-Fi, equivalent to SARGENT P2)** – Intelligent wireless lockset offering comprehensive access control for campus housing and facilities. Using an existing 802.11 b/g Wi-Fi network, the Access 700 PWI1 connects as often or as little to the host system to update users and download audit trails, while user access is locally controlled.
- **Access 700 PIP1 (PoE, equivalent to SARGENT P1)** – Intelligent PoE lockset that offers online access control using magstripe and PIN code technologies for customized access to campus facilities. The Access 700 PIP1 provides full online access control with standard network cabling, and also integrates all components (ANSI Grade 1 quality lock or exit device, card reader, door position switch, and Request-to-Exit sensor) into one device.



SARGENT Profile Series v.S1 Door Lock



HID Edge EVO Reader/Controller



Stanley Wi-Q Portal Gateway and Wireless Locks

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ASSA ABLOY Aperio™ Wireless Devices

Integration with ASSA ABLOY Aperio devices is different from most integrations, in that it requires the use of a controller and an Aperio hub. Solutions using a CK721-A or S321-IP require an integrated reader terminal, or a controller and reader terminal combination (for example, a CK721-A controller and an S300-DIN-RDR2S-A reader terminal). CKM Series controllers require a single RS-485 connection. Aperio devices are available from many ASSA ABLOY brands and include door locks, cabinet locks, wireless readers, and more.

CK721-A or S321-IP Series

The P2000 SMS CK721-A and S321-IP integration with the Aperio Wiegand® 1:1 Hub requires the use of a Wiegand connection and supports a single Aperio device.

CKM Authentic Mercury Series

The P2000 SMS CKM Series integration with the Aperio RS-485 1:8 Hub requires the use of a RS-485 connection and supports up to 8 Aperio devices.

HID Edge and Edge EVO

HID Edge and Edge EVO PoE-compliant controllers interface with the Johnson Controls P2000 SMS to provide a single-door access control solution in an IP environment. Communications between these controllers and the P2000 host occur over a TCP/IP Ethernet connection, providing ease of installation, added flexibility, and potential cost savings in an existing IT infrastructure. The P2000 software provides a single, central intuitive interface to configure and operate these controllers within the P2000 SMS.

Stanley Omnilock and Wi-Q

The Stanley Omnilock and Wi-Q hardware consists of a Portal Gateway that provides wireless communications to the individual readers using a Wireless Personal Area Network (WPAN), and the individual Omnilock and Wi-Q wireless readers. The portal gateway communicates with the P2000 server via standard 10/100Base-T Ethernet connectors. The transmit range from the portal gateway to the reader is typically 150 to 300 ft (46 to 91 m). Each portal gateway supports up to 128 readers. The wireless reader performs the actual access validation and can support up to 65,000 badges. The Stanley interface has no hard limit on the number of portal gateways but enforces the existing P2000 limits on the number of readers.

Schlage AD-Series Wireless and Hardwired Devices

Integration with Schlage is different from most integrations, in that it requires the use of a controller. Solutions using a CK721-A or S321-IP require an integrated reader terminal, or a controller and reader terminal combination (for example, a CK721-A controller and an S300-DIN-RDR2S-A reader terminal). CKM-EP1501 and CKM-EP2500 require a single RS-485 connection.

CK721-A or S321-IP Series

The P2000 SMS CK721-A and S321-IP integration with the panel interface module PIM400-TD2 for wireless devices, and panel interface board PIB300-2D for AD-300 wired devices, require the use of two Wiegand connections. Each interface module supports up to two wired or wireless readers.

The following 900 MHz wireless readers can be used with the PIM400-TD2:

- AD-400 Series Integrated Locks
- WPR400 Portable Readers
- ECK400 Elevator Control Kit
- GCK400 Gate Control Kit

CKM-EP2500 or CKM-EP1501 Authentic Mercury Series

The P2000 SMS CKM Series integration with the panel interface module PIM400-485 for wireless devices and AD-300 wired locks require the use of CKM-EP2500 or CKM-EP1501 controllers. Each PIM400-485 supports up to 16 wireless devices (8 recommended). The CKM-EP2500 supports up to 16 PIM400-485 or AD-300 devices (8 per RS-485 bus) and maximum 64 locks. The CKM-EP1501 supports a single PIM400-485, maximum 16 locks, or AD-300 device. Support for Schlage devices and the CKM-EP1501 controller requires firmware Version 1.18.7 or higher.

The following 900 MHz wireless readers can be used with the PIM400-485:

- AD-400 Series Integrated Locks
- WPR400 Portable Readers
- ECK400 Elevator Control Kit
- GCK400 Gate Control Kit

Badge and Time Zone Maximum Value Comparison According to Controller

The following table compares the maximum values of badge and time zone elements between controllers. See the last three columns for information specific to Stanley, HID, and ASSA ABLOY IP readers/controllers.

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Parameters	Elements	CK7xx	Legacy	P900	S321-DIN	S321-IP	Mercury	Stanley	HID	ASSA ABLOY
		CK705, CK720, CK721, CK721-A	D620, D620 TIU, D600 AP, S320							
Badge	Max Badge Number	20 Digits	65,535	20 Digits	32 bit ¹	20 Digits	63 bit ²	47 bit ³	64 bit ⁴	19 Digits ⁵
	Number of Access Groups	8 ⁶	2	1	2	N/A	32	N/A	8	32
	Max Issue Level	255	7	7	7	N/A	255	99	N/A	255
	Max Security Level	99 (2.2 and later)	99 (D600 AP only)	N/A	99	99 (2.6 and later)	N/A	N/A	N/A	N/A
Timezone	Number of time pairs per day	4 ⁷	4	10	4	4	10	20	6	10
	Number of unique time pairs per Timezone	40	40	16	40	40	12	N/A	60	32 ⁸

1. Max Badge Number for S321-DIN panels is 4,294,967,295
2. Max Badge Number for Mercury panels is 9,223,372,036,854,775,807
3. Max Badge Number for Stanley panels is 140,737,488,355,327
4. Max Badge Format digits is 64 bits
5. 19 digits for Mag Stripe, 48 bits for others
6. CK721-A Version 3.0 supports 32 access groups per badge
7. CK721-A Version 3.0 supports 10 time pairs per day
8. Each ASSA ABLOY lock can only store a maximum of 32 different time periods

Controller Feature Comparison

See the last three columns for information specific to Stanley, HID, and ASSA ABLOY readers/controllers.

Feature	Johnson Controls									Third Party		
	CK720 (2.6)	CK705 (2.6)	CK721 (2.8)	CK721-A (2.10)	CK721-A (3.0 / 3.1)	S321-DIN	S321-IP	Mercury		Stanley	HID	Assa Abloy
Access Grant on Door Open	✓	✓	✓	✓	✓	✓	-	-		-	-	-
Access Groups Per Badge	8	8	8	8	32	2	-	32		-	8	32
Add Hardware Module Wizard	✓	✓	✓	✓	✓	-	-	-		-	-	-
Air Crew PIN	✓	✓	✓	✓	✓	-	-	-		-	-	-
Alarm Debounce	✓	✓	✓	✓	✓	✓	✓	✓		-	✓	-
Americans with Disabilities Act (ADA)	✓	✓	✓	✓	✓	✓	-	✓		✓	✓	✓
Anti-Passback	✓	✓	✓	✓	✓	✓	✓	✓		-	✓	-
Anti-Tailgate	✓	✓	✓	✓	✓	✓	-	✓		-	-	-
Backup DB to Flash Interval	-	-	-	✓	✓	-	-	✓		-	-	-
Badge Capacity	15K ¹	15K ¹	100K	120K	200K ²	30K	5K	111K ³		65K	44K	2K
Badge Event Privilege Support	✓	✓	✓	✓	✓	✓	-	-		-	-	-
Badge Override Support	✓	✓	✓	✓	✓	✓	✓	-		-	✓	-
Badge Time Shunt	✓	✓	✓	✓	✓	-	-	✓		-	-	-
BQT LCD Reader Support	✓	✓	✓	✓	-	-	-	-		-	-	-
Calibration/Uncalibration	✓	✓	✓	✓	✓	✓	✓	✓		-	-	-
Card Formats (simultaneously supported)	21	21	21	21	21	21	1	16		2	1	U ⁴
Card ID Support	✓	✓	✓	✓	✓	✓	-	✓		✓	✓	✓

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Feature	Johnson Controls								Third Party		
	CK720 (2.6)	CK705 (2.6)	CK721 (2.8)	CK721-A (2.10)	CK721-A (3.0 / 3.1)	S321-DIN	S321-IP	Mercury	Stanley	HID	Assa Abloy
Central Mode (Card Processing)	✓	✓	✓	✓	✓	✓	-	-	-	-	-
Custom Card Formats	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Custom PIN Code	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
D620-ECG Elevator Mode	✓	✓	✓	✓	✓	-	-	-	-	-	-
Door Control - Access Time (manual)	✓	✓	✓	✓	✓	✓	-	✓	✓	✓	✓ ⁵
Door Control - Timed (manual)	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-
Door Open Warning	✓	✓	✓	✓	✓	✓	-	✓	-	-	-
Door Shunt Expiration Warning	✓	✓	✓	✓	✓	✓	-	-	-	-	-
Dual Ethernet Support	✓	✓	-	-	-	-	-	✓	-	-	-
Elevator Readers (max. per panel)	16	4	16	16	16	-	-	16	-	-	-
Elevator Support	✓	✓	✓	✓	✓	-	-	✓	-	-	-
Encrypted Communications	-	-	-	-	✓ ⁷	-	✓	✓	-	✓	-
Encryption (FIPS 140-2 Compliant)	-	-	-	-	✓ ⁷	-	-	-	-	-	-
Entry/Exit Enforce	✓	✓	✓	✓	✓	-	-	✓	-	-	-
Executive Privilege	✓	✓	✓	✓	✓	✓	-	✓	✓	✓	✓
Exempt from Archive to Flash	✓	✓	✓	✓	✓	-	-	-	-	-	-
Extended Shunt Time	✓	✓	✓	✓	✓	✓	-	-	-	-	-
Extended Time Override	✓	✓	✓	✓	✓	✓	-	-	-	-	-
Facility Codes	12	12	12	12	12	4	U ⁴	16	U ⁴	U ⁴	U ⁴
HID Corp. 1000 Card Format	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
High Level Elevator	✓	✓	✓	✓	✓	-	-	-	-	-	-
High Performance Entry/Exit Status Synchronization	✓	✓	✓	✓	✓	-	-	-	-	-	-
High Speed RS485	✓	✓	✓	✓	✓	✓ ⁹	-	✓	-	-	-
History Upload With Seconds	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Holidays	40	40	40	40	40	40	40	40	-	64	32
Input Groups	✓	✓	✓	✓	✓	✓	-	-	-	-	-
Input Suppression	✓	✓	✓	✓	✓	-	✓	✓	-	-	-
Inputs (max. per panel)	256	64	256	256	256 ¹⁰ 326 ¹¹	6	12	512 ¹²	-	5	-
Intrusion *	-	-	-	-	-	-	-	✓	-	-	-
Issue Level per Badge	✓	✓	✓	✓	✓	✓	-	✓	✓	✓	✓
Keyless Override Feature	✓	✓	✓	✓	✓	✓	-	-	-	-	-
KONE HLI Elevator Support	✓	✓	-	✓	✓	-	-	-	-	-	-
KONE IP Elevator Support	-	-	-	-	✓ ⁷	-	-	-	-	-	-
Multi Card Types	✓	✓	✓	✓	✓	✓	✓	✓	-	✓	✓

P2000 Security Management System Third-Party IP Reader/Controller Integration (Continued)

Feature	Johnson Controls								Third Party		
	CK720 (2.6)	CK705 (2.6)	CK721 (2.8)	CK721-A (2.10)	CK721-A (3.0 / 3.1)	S321-DIN	S321-IP	Mercury	Stanley	HID	Assa Abloy
Multiple Facility Codes per Badge Type	✓	✓	✓	✓	✓	✓	–	✓	✓	✓	✓
N-Man Rule	✓	✓	✓	✓	✓	✓	–	–	–	–	–
Network	✓	✓	✓	✓	✓	✓ ⁸	✓	✓	✓	✓	✓
Otis Compass Elevator Support	–	–	–	–	✓	–	–	–	–	–	–
Otis EMS - Security / BMS	–	–	–	✓	✓	–	–	–	–	–	–
Output Control (manual)	✓	✓	✓	✓	✓	✓	✓	✓	–	✓	–
Output Groups	✓	✓	✓	✓	✓	✓	–	–	–	–	–
Output Groups associated with Time Zones	✓	✓	✓	✓	✓	✓	–	–	–	–	–
Output Status Reporting	✓	✓	✓	✓	✓	✓	✓	✓	–	–	–
Outputs (max. per panel)	128	32	128	128	128 ¹⁰ 208 ¹¹	10	8	512 ¹²	–	2	–
Override Expiration Warning	✓	✓	✓	✓	✓	✓	–	–	–	–	–
Override Reset Threat Level	✓	✓	✓	✓	✓	✓	✓	–	–	–	–
Panel Card Events	20	20	20	20	20	20	–	–	–	–	–
Panel Relay Set/Reset	✓	✓	✓	✓	✓	–	–	–	–	–	–
Panel Relays	2	2	1	1	1	–	–	–	–	–	–
Peer to Peer Badge Sync	–	–	–	✓	✓	–	–	–	–	–	–
PIN + 1 Duress	✓	✓	✓	✓	✓	✓	–	✓	–	–	–
PIN Code Digits Supported (Custom)	6	6	6	6	9	5	4	9	3-6	9	–
Power over Ethernet (PoE) Connection	–	–	–	–	–	–	–	✓ ¹⁵	–	✓	✓ ¹⁴
Raw 128 Bit Card Format	–	–	–	–	–	–	✓	–	–	–	–
Reader Override	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	–
Reverse Card Reading	✓	✓	✓	✓	✓	✓	–	✓	–	–	–
Reverse Swipe Duress	✓	✓	✓	✓	✓	✓	–	–	–	–	–
Security Level	✓	✓	✓	✓	✓	✓	✓	–	–	–	–
Special Flags (A, B, C)	✓	✓	✓	✓	✓	✓	–	✓	✓	✓	✓
Star Feature	✓	✓	✓	✓	✓	✓	–	–	–	–	–
Strike Status	✓	✓	✓	✓	✓	✓	✓	–	✓	–	–
Terminal Override Status	✓	✓	✓	✓	✓	–	–	✓	✓	✓	✓ ¹⁴
Terminal Readers	16	4	16	16	64	2	2	64 ¹⁶	128	1	1
Terminal Time Zone Enabled	✓	✓	✓	✓	✓	✓	✓	✓ ¹⁷	✓	✓	–
Terminal Time Zone Override	✓	✓	✓	✓	✓	✓	✓	✓ ¹⁷	✓	✓	✓
Terminal Time Zone PIN Suppression	✓	✓	✓	✓	✓	✓	✓	✓ ¹⁷	✓	✓	–

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Time Zones per Badge	8	8	8	8	32	2	2	18	—	8	8
Time Zones per Panel	64	64	64	64	64	64	64	64	32	64	32
Valid and Unauthorized	✓	✓	✓	✓	✓	✓	—	—	—	—	—

* Intrusion is also supported with Aritex and Bosch panels.

- Without memory expansion.
- When the number of badges exceeds 120,000, the number of access groups should be limited to 50,000.
- Using the standard feature set EP2500 supports 111,000 badges. EP1501, EP1502, and Schlage PIM400-1501 support 31,000. With a reduced feature set, EP2500 supports 500,000. EP1501, EP1502, and Schlage PIM400-1501 support 250,000. To exceed the lower numbers, contact Technical Support for details on changing the badge configuration.
- Unlimited.
- Supported by hard-wired version only.
- Supported by Mercury EP2500 only, using Lantronix® Micro 125 Embedded Serial to Ethernet Module.
- Supported by CK721-A Version 3.1.
- No formats are built-in, all are custom with a maximum of 32-bits.
- S321-DIN panels can communicate with the P2000 Server through network connection using a Digi One™ SP converter box.
- Maximum number supported by RDR2, SI08, SI8, IO8, I16.
- Maximum number supported by RDR2S-A and RDR8S.
- For panels with no reader modules.
- This is the maximum number; however, the number of digits supported depends on the card format assigned to the reader.
- PoE version only.
- Supported by Mercury EP1501 only.
- Up to 64 readers, depending on the panel type.
- Provided via Mercury Triggers and Procedures.
- Uses Access Group Details to associate Readers with Time Zones, on an access group basis, not on a badge basis.

Ordering Information

Part Number	Description
P2K-P-ASSA312	P2000 Integration of up to 5 ASSA ABLOY Readers ¹
P2K-P-EDGE312	P2000 Integration of up to 5 HID Edge Readers ¹
P2K-P-OSI312	P2000 Integration of up to 5 Stanley OMNILOCK or Wi-Q Readers ¹

1. Orderable in increments of 5 integrated readers.

Related Documentation

Document Title	Document Number
P2000 Software User Manual	Part No. 24-10685-157
P2000 Software Installation Manual	Part No. 24-10685-130
P2000 Third-Party Reader/Controller Integration Product Bulletin	LIT-12011797
Connecting Serial Controllers to the P2000 Comark Server Application Note	LIT-12011743
Installing Stanley Wi-Q System Software for OSI Integrations Technical Bulletin	LIT-12011909